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PATENT SPECIFICATION

No. 694865

CLASS **63***c* GROUP 90

A 82733 II/63c

Max Junghänel in Eckersbach b. Zwickau, Saxony-Anhalt
is designated as the inventor.

Auto Union A.-G. in Chemnitz
Support for Lids, in particular, for Trunk Lids of Motor Vehicles

Patented in the German Empire on April 24, 1937

Grant of patent published on July 11, 1940

According to § 2, para. 2 of the ordinance of April 28, 1938, it is hereby declared that the patent protection includes the country of Austria.

The present invention relates to supports for lids, in particular, for trunk lids of motor vehicles, which supports comprise two control arms, which can be controlled together in a displaceable fashion, and can be locked, unlocked and bent in the following manner. The control arms can be locked by swiveling one control arm, when lowering the lid, out of the stretched position of the control arms when the lid is opened to the maximum possible extent by means of a guide pin, which slides on an inclined guideway, and is locked in place against an abutment at the end of the swivel movement. The control arms can be unlocked by again bringing the control arms into the stretched position by lifting the lid. The control arms can be bent by sliding the guide pin on a second inclined guideway. The lid supports disclosed in the prior art require laborious and expensive production since the guide pin and the guideway are produced separately and then joined to the control arms by hard soldering or welding. Furthermore, there occurs severe abrasion on the curves and action points of parts that slide together in this manner. This abrasion as a result of wear and tear poses a challenge to the correct mode of operation of the support.

The lid support of the invention has a substantially simplified design. According to the invention, the guide pin comprises a curved portion of a lever, which can move in relation to one control arm. In one of its end positions, the curved portion of the lever swivels the other control arm, when lowering the lid, out of its stretched position by sliding on the inclined guideway disposed on one side of said other control arm and places it against an abutment attached to a lid part. When the control arms are stretched again, the curved portion of the lever arrives into the other end position. In this end position, the curved portion of the lever slides on the inclined guideway disposed on the other side of said other control arm when the lid is lowered again and thus bends the control arms.

Furthermore, according to the invention, the curved portion of the lever reaches through a slot of the associated control arm, which slot is located in the movement direction of the curved portion. The curved portion of the lever supports itself against the ends of the slot during each lifting movement of the lid and stretching movement of the control arms due to the action of a braking device.

In the drawings, which illustrate the invention with reference to an exemplary embodiment,

Fig. 1 is a lateral view of the support in the closed state of the lid,

Fig. 2 is a lateral view of the support in the open state of the lid,

Fig. 3 is a lateral view of the support when closing the lid,

Fig. 4 is a lateral view of the support when opening the lid, and

Fig. 5 is an illustration of a detail taken along line V-V marked in Fig. 1.

As shown in Fig. 1 to 5, a control arm 6 is connected by means of a joint 7 to the lid 1 of a luggage compartment 2 and to fitting parts 4 and 5, which are articulated at point of articulation 3. The control arm 6 forms a pair of scissors together with a control arm 8, which is supported by means of a joint 9 on the fitting part 5. The control arm 6 comprises a slotted hole 11 on the swivel joint 10, which connects the control arm 6 to the control arm 8. The slotted hole 11 enables the control arm 6 to move longitudinally apart from in a rotary fashion. The swivel joint 9 of the control arm 8 carries a control member 12, which is designed as a lever and a curved portion of which is guided into a slot 14 of the control arm 8. Depending on the movement of the lid 1, this curved portion 13 comes into contact with guideways 15 and 16 provided at the end of the control arm 6. The ability of the lever 12 to move in a rotary fashion is reduced in relation to that of the control arm 8 by supporting a spring-loaded cushioning disc 17 on the pivot pin 18, as shown in Fig. 5. A stop pin 19, which locks the control arm 6 into position in the opened state of the lid, is provided on the fitting part 4 of the trunk lid 1.

The device operates as follows:

In the closed state of the lid 1, the curved portion 13 is located at the lower end of the slot 14 (cf. Fig. 1). In the opening movement of the lid, the control arm 6 entrains the control arm 8 and the latter, for its part, drags the control lever 12 into the position shown in Fig. 4. When the lid is opened to the maximum possible extent, the control arm 6 with the control arm 8 displays a linear course, and the pin of the swivel joint 10 strikes against that end of its slotted hole 11 that is oriented away from the guideways 15 and 16 of the control arm 6. When releasing the lid, the inclined guideway 16 slides on the curved portion 13 of the lever 12, and the control arms 6 and 8 bend inwards until the control arm 6 supports itself against the stop pin 19.

For closing the lid, the latter is briefly lifted. In doing so, the control arms 6 and 8 again assume a stretched position. In this movement, the curved portion 13 of the lever 12 changes its position in the slot 14 and arrives into the position shown in Fig. 3. When releasing the lid, the guideway 15 now slides along the curved portion 13 and in doing so causes the control arms 6 and 8 to bend in. Finally, in the closed state of the lid, all parts assume the position shown in Fig. 1.

CLAIMS:

1. Support for lids, in particular, for trunk lids of motor vehicles, which support comprises two control arms, which can be controlled together in a displaceable fashion, and can be locked, unlocked and bent in the following manner: The control arms can be locked by swiveling one control arm, when lowering the lid, out of the stretched position of the control arms when the lid is opened to the maximum possible extent by means of a guide pin, which slides on an inclined guideway, and is locked in place against an abutment at the end of the swivel movement; the control arms can be unlocked by again bringing the control arms into the stretched position by lifting the lid; the control arms can be bent by sliding the guide pin on a second inclined guideway, said support being characterized in that the guide pin comprises a curved portion (13) of a lever (12), which can move in relation to one control arm (8); in one of its end positions, the curved portion of the lever swivels the other control arm (6) ,when lowering the lid, out of its stretched position by sliding on the inclined guideway (16) disposed on one side of said other control arm (6) and places it against an abutment (19) attached to a lid part (4); when the control arms are stretched again, the curved portion of the lever arrives into the other end position, in which the curved portion of the lever slides on the inclined guideway (15) disposed on the other side of said other control arm (6) when the lid is lowered again and thus bends the control arms.

2. Support according to Claim 1 characterized in that the curved portion (13) of the lever (12) reaches through a slot (14) of the associated control arm (8), which slot is located in the movement direction of the curved portion, and the curved portion of the lever supports itself against the ends of the slot during each lifting movement of the lid and stretching movement of the control arms (6, 8) due to the action of a braking device (17).

1 page of drawings

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Drawings of patent specification 694865
Cl. 63c Gr. 90

Fig. 1

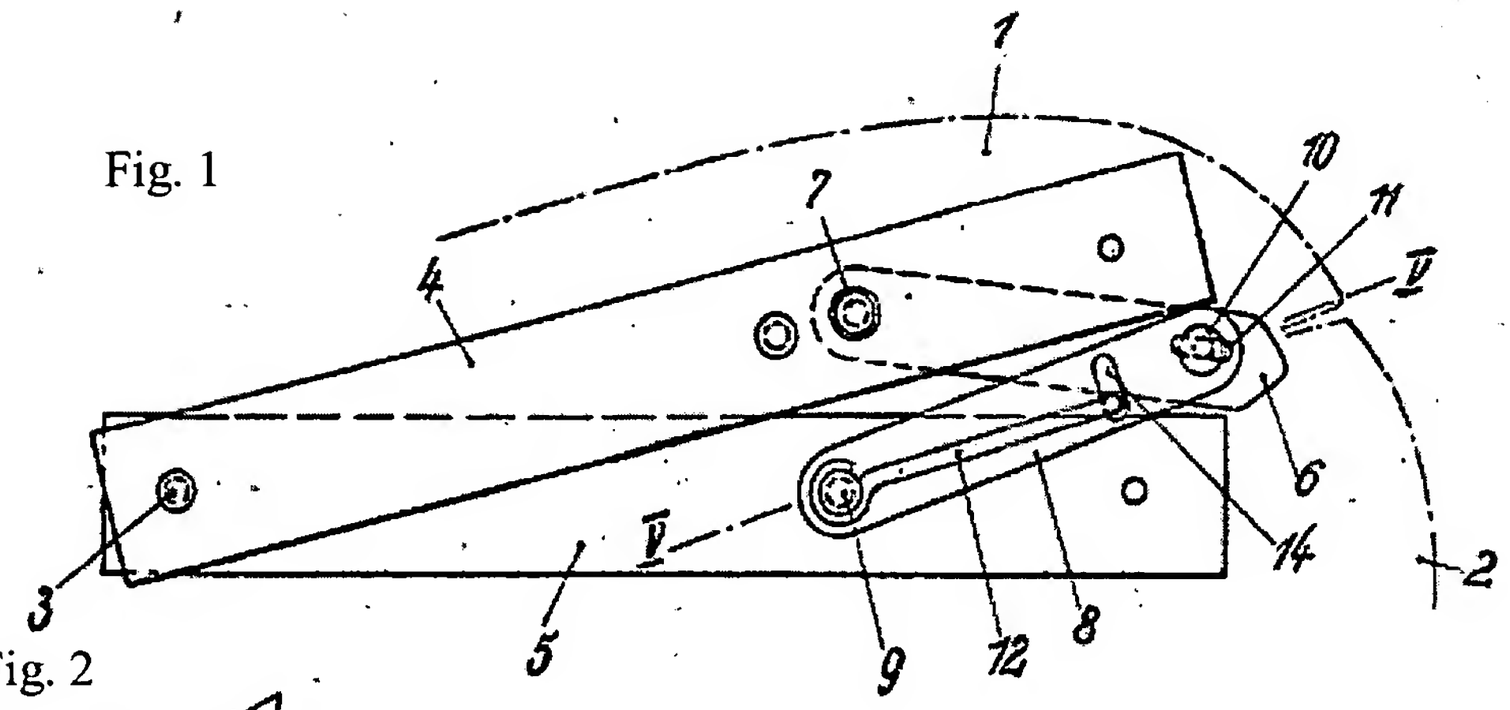

Fig. 2

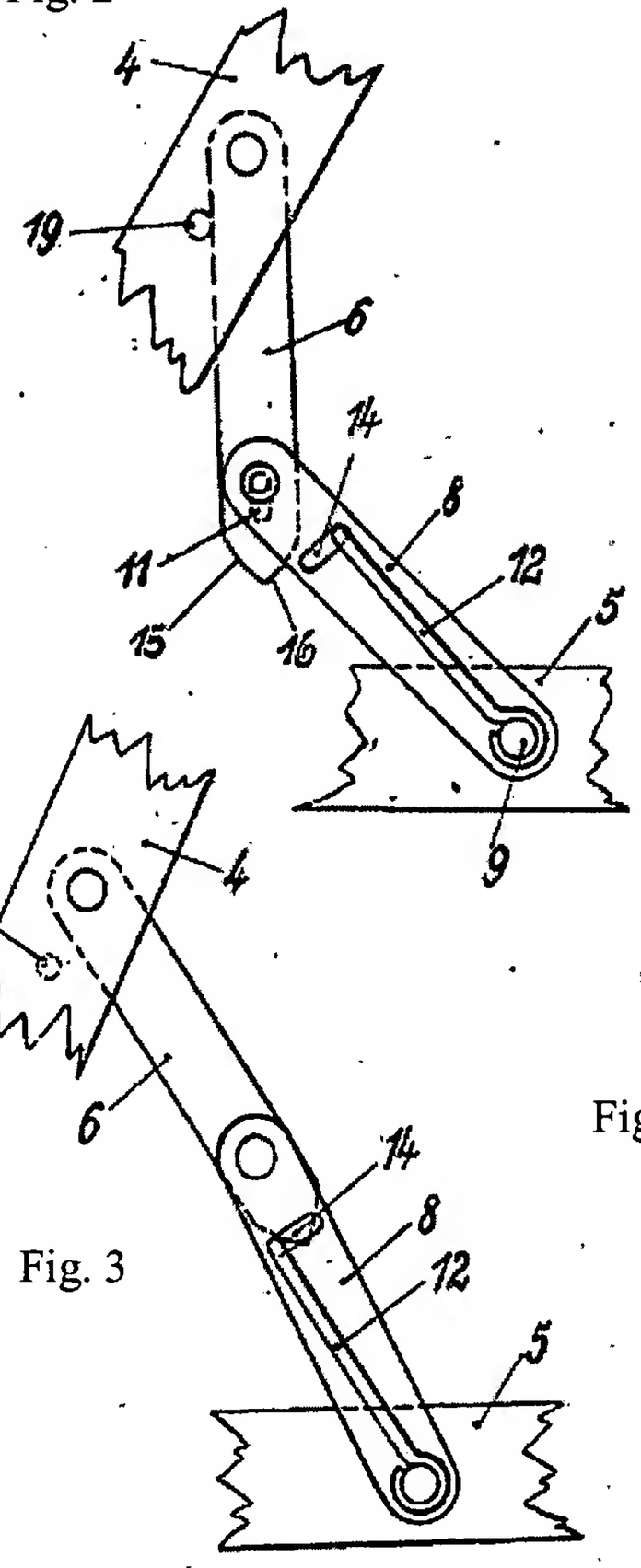

Fig. 5

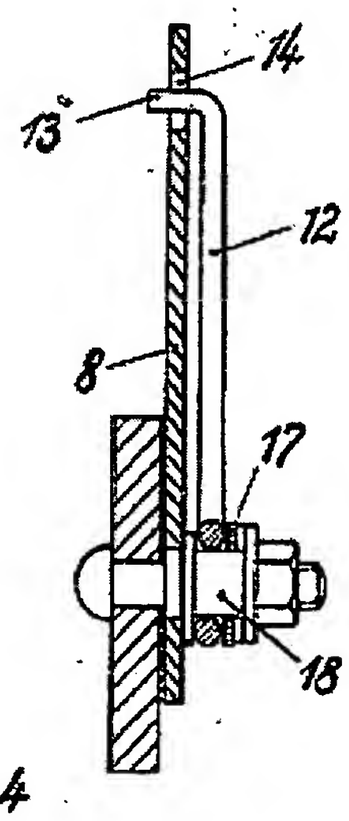

Fig. 3

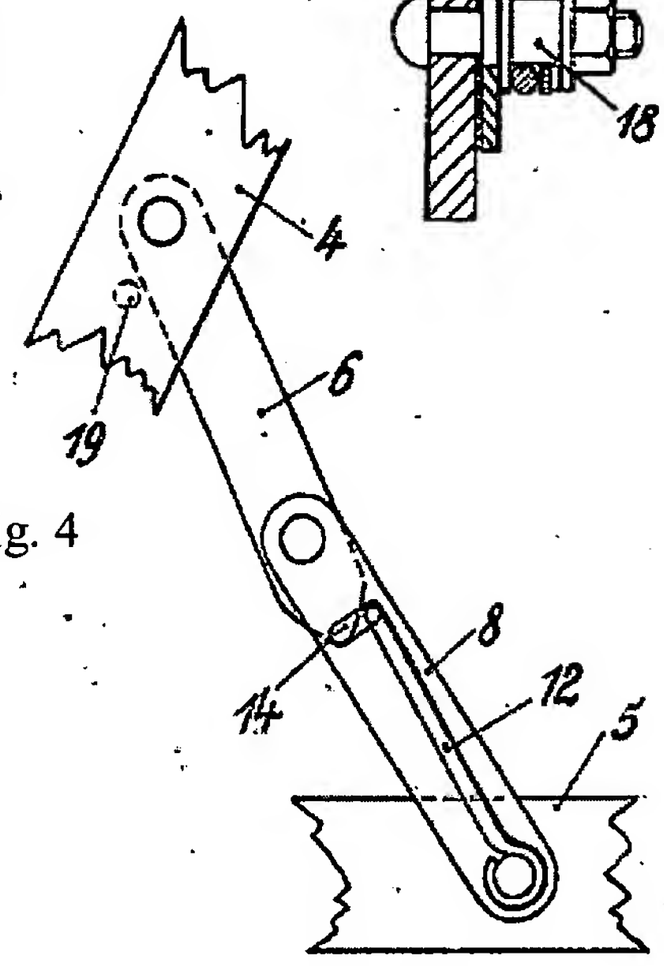

Fig. 4